In the Claims:

Please amend claims 1, 4, 7, and 31 as follows (the changes in these claims are shown with ~~strikethrough~~ for deleted matter and underlines for added matter). A complete listing of the claims proper claim identifiers is set forth below.

1. (Original) A gene therapy vector, comprising:

a first polynucleotide encoding a gene for Bβ subunit of a cytolethal distending toxin; and

a second polynucleotide encoding an antisense oligonuoleotide that inhibits expression of a sense oligonucleotide encoding a DNA repair protein;

wherein the first and second polynucleotides are operably linked to an inducible promoter.

2. (Original) The gene therapy vector of claim 1, wherein the inducible promoter is a heat shock promoter.

3. (Original) The gene therapy vector of claim 1, wherein the inducible promoter is a segment of a heat shock promoter that is strictly inducible by heat shock.

4. (Original) The gene therapy vector of claim 3, wherein the inducible promoter has a nucleotide sequence of SEQ ID 7.

5. (Original) The gene therapy vector of claim 1, wherein the gene is selected from the group consisting of *H. ducreyi* cdtB, *C. jejuni* cdtB, and *E. coli* cdtB.

6. (Original) The gene therapy vector of claim 1, wherein the gene is *E. coli* cdtB.

7. (Original) The gene therapy vector of claim 6, wherein the gene has a nucleotide sequence of SEQ ID 5.

8. (Original) The gene therapy vector of claim 1, wherein the second polynucleotide encodes an antisense oligonucleotide that inhibits expression of a sense

oligonucleotide encoding a protein involved in the non-homologous end-joining DNA repair mechanism.

9. (Original) The gene therapy vector of claim 8, wherein the protein is ku70.

10. (Original) The gene therapy vector of claim 9, wherein the second polynucleotide is complimentary to nucleotide sequence SEQ ID 6.

11. (Original) The gene therapy vector of claim 1, wherein the vector is a member selected from the group consisting of plasmids, phages, phagemids, viruses, and artificial chromosomes.

12. (Original) The gene therapy vector of claim 11, wherein the vector is a viral vector.

13. (Original) The gene therapy vector of claim 12, wherein the vector is a member selected from the group consisting of papovirus, lentivirus, adenovirus, vaccinia virus, adeno-associated virus, herpes virus, and retrovirus.

14. (Withdrawn) An adenoviral vector for performing cytolethal gene therapy comprising a polynucleotide having a first nucleotide sequence encoding a cdtB gene, a second nucleotide sequence encoding an antisense oligonucleotide that inhibits expression of ku70, and a heat shock promoter that is strictly inducible by heat and is positioned to promote expression of the first and second nucleotide sequences.

15. (Withdrawn) The adenoviral vector of claim 14, wherein the cdtB gene has nucleotide sequence SEQ ID 5.

16. (Withdrawn) The adenoviral vector of claim 14, wherein the second nucleotide sequence is complimentary to nucleotide sequence SEQ ID 6.

17. (Withdrawn) The adenoviral vector of claim 14, wherein the heat shock promoter has nucleotide sequence SEQ ID 7.

18. (Withdrawn) A method of conducting cytolethal gene therapy, comprising:

providing a vector comprising a first polynucleotide encoding a gene for a B subunit of a cytolethal distending toxin, a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense oligonucleotide encoding a DNA repair protein, and a heat shock promoter operably linked to the first and second polynucleotides;

delivering the vector to a desired cell; and

elevating the temperature of the cell above normal body temperature such that the promoter transcribes the first and second polynucleotides.

19. (Withdrawn) The method of claim 18, wherein the heat shock promoter is a segment of a heat shock promoter that is strictly inducible by heat shock.

20. (Withdrawn) The method of claim 19, wherein the heat shock promoter has nucleotide sequence SEQ ID 7.

21. (Withdrawn) The method of claim 20, wherein the gene is *E.coli* cdtB.

22. (Withdrawn) The method of clam 21, wherein the gene has nucleotide sequence SEQ ID 5.

23. (Withdrawn) The method of clam 21, wherein the vector is a viral vector.

24. (Withdrawn) The method of claim 23, wherein the vector is a member selected from the group consisting of papovirus, lentivirus, adenovirus, vaccinia virus, adeno-associated virus, herpes virus, and retrovirus.

25. (Withdrawn) The method of claim 18, wherein delivering the vector comprises directly infusing the vector into a tissue comprising the cell.

26. (Withdrawn) The method of claim 18, wherein the cell is a cancerous cell.

27. (Withdrawn) The method of claim 26, wherein the cancerous cell is contained within a solid tumor.

28. (Withdrawn) The method of claim 18, wherein elevating the temperature of the cell comprises elevating the temperature of the cell to a temperature between approximately 38 and 45° C.

29. (Withdrawn) The method of claim 28, wherein the elevated temperature is approximately 41°C.

30. (Withdrawn) The method of claim 30, further comprising maintaining the elevated temperature of the cell for between approximately 1 and 72 hours.

31. (Withdrawn) A method of conducting cytolethal gene therapy, in a tumor, comprising:

delivering to said tumor a polynucleotide encoding a cdtB gene, an antisense oligonucleotide that inhibits expression of ku70, and a heat shock promoter that is strictly inducible by heat and is positioned to promote expression of the cdtBβ gene and the antisense oligonucleotide; and

elevating the temperature of said tumor.

32. (New) A gene therapy vector, comprising:

a first polynucleotide encoding a gene for a B subunit of a cytolethal distending toxin, wherein the gene is *E. coli* cdtB;

a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense oligonucleotide encoding a DNA repair protein; and

wherein the first and second polynucleotides are operably linked to an inducible promoter.

CLAIM STATUS

Claims 14-31 were withdrawn from prosecution. Claims 1, 4, 7, and 31 were amended. Amendments to claims 1, 4, 7, and 31 relate to form and/or grammar only for the purpose of increasing the clarity of each.

New claim 32 has been added. The support for new claim 32 may be found throughout the specification, including paragraphs 32 and 40, and claims 1, 5 and 6.

Claims 1-13 are pending.

No new matter has been added.

RESTRICTION REQUIREMENT

The Office Action sets forth a requirement for restriction between the following:

Group I, claims 2-5 and 8-13, drawn to a gene therapy vector comprising a first polynucleotide encoding *H. ducreyi* cdtB gene and a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense polynucleotide encoding a DNA repair protein, classified in class 536, subclass 24.5. This group is subject to a further species election.

Group II, claims 2-5 and 8-13, drawn to a gene therapy vector comprising a first polynucleotide encoding *C. jejuni* cdtB gene and a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense polynucleotide encoding a DNA repair protein, classified in class 536, subclass 24.5. This group is subject to a further species election.

Group III, claims 2-13, drawn to a gene therapy vector comprising a first polynucleotide encoding *E. coli* cdtB gene, having SEQ ID NO. 5, and a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense polynucleotide encoding a DNA repair protein, classified in class 536, subclass 24.5. This group is subject to a further species election.

Group IV, claims 14-17, drawn to an adenoviral vector for performing cytolethal gene therapy comprising a first polynucleotide encoding cdtB gene, a second nucleotide

sequence encoding an antisense oligonucleotide that inhibits expression of ku70 and a heat shock promoter, classifiable in class 536, subclass 24.5.

Group V, claims 18-31, drawn to a method of conducting cytolethal gene therapy comprising providing a vector comprising a first polynucleotide encoding a gene for a B subunit of a cytolethal distending toxin, a second polynucleotide encoding an antisense oligonucleotide that inhibits expression of a sense oligonucleotide encoding a DNA repair protein and a heat shock promoter and delivering the vector to the desired cell, classifiable in class 514, subclass 24.5.

Species Election: The Office Action sets forth a requirement for Species election as follows:

Claims 11 and 12 are directed to the following patentably distinct species of the claimed invention of gene therapy vectors: plasmids, phages, phagemids, viruses and artificial vectors.

Additionally, if applicant elects viral vectors from either of groups I, II, or III, applicant is required to further elect a single disclosed species of viral vectors. Claim 13 is directed to the following patentably distinct species of viral vectors: papovirus, lentivirus, adenovirus, vaccinia virus, adeno-associated virus, herpes virus and retrovirus.

Applicant traverses the required restriction on the grounds set forth below. In the event that the restriction requirement is maintained, Applicant provisionally elects Group III, claims 2-13.

With regard to the Species election, Applicant elects the following Species:

viral vectors of the elected Group (Group III: claims 2-13), claims 12-13 read on the elected Species.

adenovirus vectors of the elected Group (Group III: claims 2-13), claim 13 reads on the elected Species.

New claim 32 is directed to elected subject matter and it should therefore be examined with Group III.